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Use of ELearning for Interactive Learning Media

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Abstract: The study discusses whether schools use e-learning applications, especially using Moodle CMS as a learning medium conducted in two cities, Bandung and Bogor. The method used in this study is a direct survey of high schools, discussing with school principals and discussing school knowledge and school readiness in starting eLearning at school. The purpose of this study is to know whether the school is ready and will use eLearning, besides that another goal is to apply eLearning to schools with access made by teacher students and parents. The benefits of research are for teachers to be able to easily access learning material, see students' grades directly and accelerate the entire assessment process to the end. While the benefits for students to facilitate the process of obtaining learning materials, fill exams and can see firsthand the value given by the teacher, can also conduct discussions with other students, in discussion forums. Benefits for parents of course to monitor the development of their children so that it is known and can nurture children in a family environment. Finally, the software will be created and will be given to schools so that it can be applied to be developed again by the school, for example for the student council selection or for payment activities and entrepreneurship for school students.

Keywords: *Moodle ELearning, Interactive eLearning In High School, Teacher And Parent Student Interaction*

Introduction

Currently developing into very fast learning, this is characterized by being used as a learning medium that is good for teachers, students or for parents. Conventional learning (Mokhtar, 2015; Sirathanakul & Amnuywattanakul, 2015) has penetrated the media with the concept of eLearning, all electronic media has become eLearning (Taucean& Tamasila, 2014). The development of social media and technological developments in computer technology has supported learning that is no longer limited, can be done anywhere and when we want it.

The simple system that is always used in schools slowly changes and continues to grow, as seen from the tests that began using the concept of online systems. Even though the online system at the test is only limited to, the final examination but it can be seen that the development of technology has penetrated and entered education. Through this study, eLearning will begin to be implemented in more detail in the teaching interaction by teachers conducted in the classroom, students who receive learning and parents who supervise their children.

The application of eLearning to schools is the main thing that must be done to improve the spirit of student learning (YuekMing& Manaf, 2014) so that teachers provide learning according to the provisions and through activities or practical actions will attract students' attention(Marques, Eng, Isep, Villate, & Sim, 2011). Learning activities will be more varied by the teacher when using eLearning in presenting the material (Caliskan& Bicen, 2016), giving examples through animation, pictures and video examples making students more enthusiastic about the lesson, based on practice can be done with examples and implementation of animation can also be given through eLearning (Gamayunova, Vatin, Rechinsky, & Razinkina, 2015). There are so many other benefits in e-learning that data is felt by students with more interactive and innovative learning, can be more efficient using eLearning, especially supported by the current conditions that almost every high school student currently has a mobile phone that can be used for learning.

Designing an eLearning application that is carried out in high school using Moodle (Barge & Londhe, 2014; Ueda & Nakamura, 2016), is a platform commonly used by schools or students in learning. The special thing added in this study is to include the role of parents in monitoring the development of students (Kaendler, Wiedmann, Rummel, & Spada, 2015). Learning is done by teachers, students and through Moodlee Learning (Ueda, Furukawa, Yamaji, & Nakamura, 2018) will be made specifically for parents who continue to monitor and pay attention to the development of their children's learning. Expected benefits, namely the interaction of parents or guardians of students in the use of eLearning is expected to be able to see developments and always supervise, monitor and improve quality in children (Mutia& Leonard, 2013). If there are conditions where the child's exam is not satisfactory then the teacher can provide grades that are seen through eLearning Moodle for parents. Through this, parents or guardians of students can provide special counselling or guidance to their children with more basic direction. This is one of the special plans added in the application of learning to schools, namely the role of parents of students.

The implementation of eLearning in schools has a very good role; this is because eLearning is prioritized as an interactive media in learning. The interaction of teachers, students and parents is the main thing in the application of eLearning. Through learning Moodle can provide interactive material to spur students' learning spirit.

Method

The method used in conducting the study is direct observation in high school. Make a visit to the area of Bandung and the city of Bogor. Conduct direct discussions with school principals and discuss the application of Moodle as an interactive learning media in schools.

The population in this study were all staff and employees in high school, in addition to the principal the discussion was also conducted on the deputy head of the curriculum field, or directly to other staff who are competent in online learning, it could also be to information technology staff who handle online systems at schools to see the readiness to implement this interactive media learning application.

Learning scheme used in Moodle as follows (Dobashi, 2017):

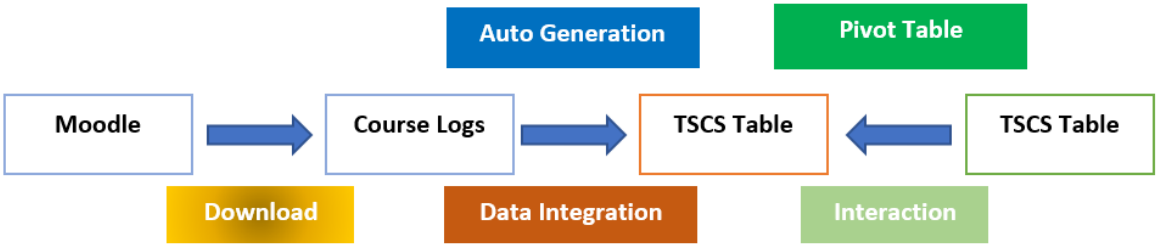

Figure 1. Interactive eLearning Scheme in Moodle

Figure 1. provides an interactive scheme of eLearning in learning. Students can download the script and learn it freely by first logging in the Moodle interactive system (EC00201816941, Patent, 2018). After downloading it can do a test or quiz with integrated data, teacher interaction

with students in learning interaction can also be seen by parents in monitoring the learning outcomes.

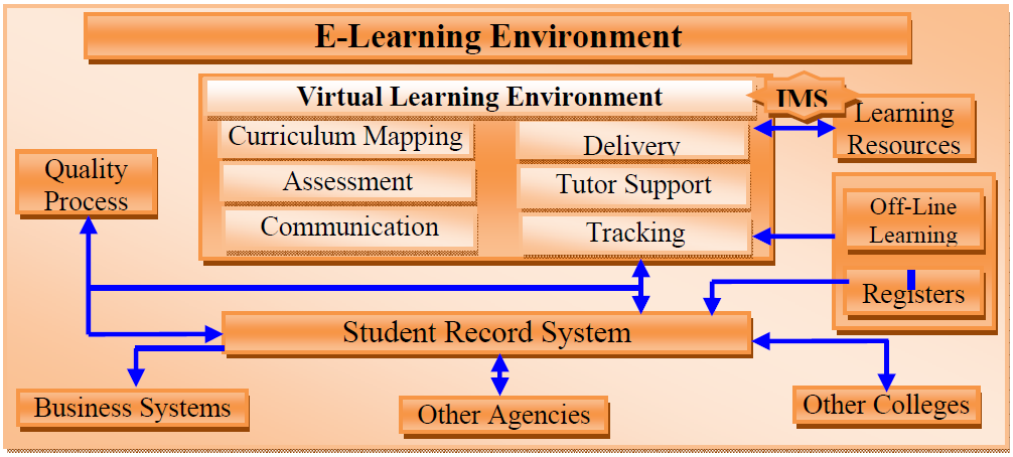

Figure 2. E-Learning Interactive Environment

From figure 2. E-Learning Interactive Environment, in interactive eLearning things that need to be added, namely in the quality of the school readiness process is also a matter to be considered. In addition to teachers and school, students(Hsieh & Cho, 2011) must also have a system openness to parents; the role of parents is in quality processes, especially in supervising child development.

Results and Discussion

The results of the study were in the form of Moodle applications and media for parents in the form of Moodle access. Moodle is applied as interactive learning that connects teacher students and parents in school learning. Previous studies have not been many that involve parents in learning as interactive media in learning.

The results of visits to the nine high schools in the city of Bandung and the city of Bogor showed interactive learning as follows:

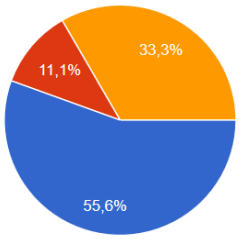

Figure 3. Interactive E-Learning knowledge at school

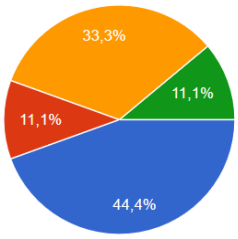

Figure 4. MoodleKnowledge of Interactive E-Learning

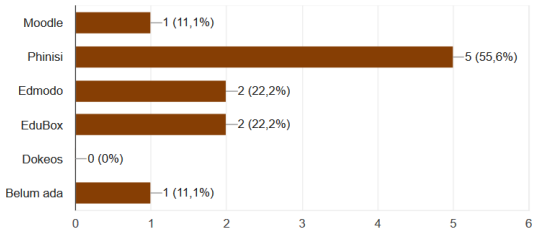

Figure 5. Interactive Elerning that has been used by schools

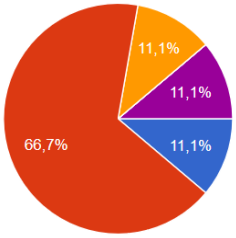

Figure 6. Interactive ElearningSchool duration

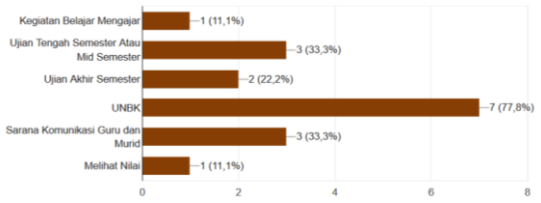

Figure 7. Use for of Interactive ELearning at school

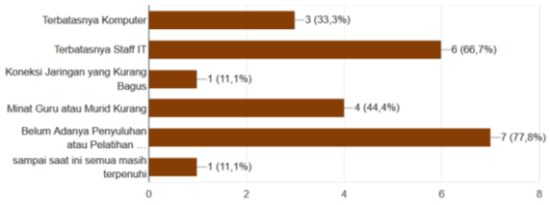

Figure 8. Interactive ElearningConstraints

In figure 3. Knowledge about school about interactive learning is 55.6%. The application of Moodle application is quite widely known as interactive learning, but there is no information or study linking teachers, students and parents. In Figure 4. School knowledge about interactive eLearning on Moodle shows that the majority of schools know that the use of eLearning is 44.4% and has used interactive learning concepts up to 33.3%. In figure 5. Shows that interactive learning what has been used in schools is the results obtained are not Moodle but Phinisi, a platform developed by the regional government of Bandung. On this graph, another thing is found which the subject of the next study. The percentage on this chart is 55.6% for interactive learning. However, it can still be concluded that the school has ever used interactive eLearning. In Figure 6. It shows a graph that high schools that have never used eLearning are very few at 11.1%; this proves that the majority have used interactive learning. The results also show that some have used eLearning for 2 to 4 years with a percentage of 66.7%. Figure 7 shows the use of eLearning in schools, this result is more schools use for the interests of UNBK as much as 7% and very few use it for teaching and learning activities in the classroom and see the value as evaluation material. In this section, parents have the next role. In Figure 8 is an obstacle that exists or constraints on interactive learning to be implemented, namely the lack of counselling and training for operators or school teachers, in addition to the relatively high level of staffing that is limited to schools. Of course, this makes parents have to learn again using interactive learning, Moodle if they want to monitor their children's learning outcomes.

From the results of the study with the above, it can be obtained several conclusions regarding interactive eLearning that will be applied to high schools. Nevertheless, the renewal and purpose of this study is to apply the role of parents in teaching and learning activities that are not bound by school regulations. This is more emphasized on the design of Moodle software that has been done by the research team to facilitate the process and oversee the child's learning process.

The importance of continuity between teachers, students and parents makes this study carried out. Design is done to facilitate learning that is done in the classroom. The design also aims to increase the enthusiasm of student learning, and the design of Moodle is made so that parents can supervise the value of their children.

Moodle implementation in making interactive learning from the results of the study in figure 3 through figure 8 provides a solution for the design of making Moodle applications, with the following conditions:

Table 1. Proses User Moodle.

No	Process	Information
1.	Login	This function involves not only the role of the teacher, students but parents can also log in
2.	Preparing Classes	The teacher prepares the class to begin, can be started by uploading the material in the interactive Moodle web
3.	Attend Learning	all students follow and attend the Learning activities provided online
4.	Make learning Point	The teacher will manage learning outcomes and learning points according to the learning plan
5.	Organize Learning	the administrator will monitor and maintain the interactive learning web

The following is a picture of the scheme created using a use case on interactive eLearning Moodle, so that it can be understood well by the user functions:

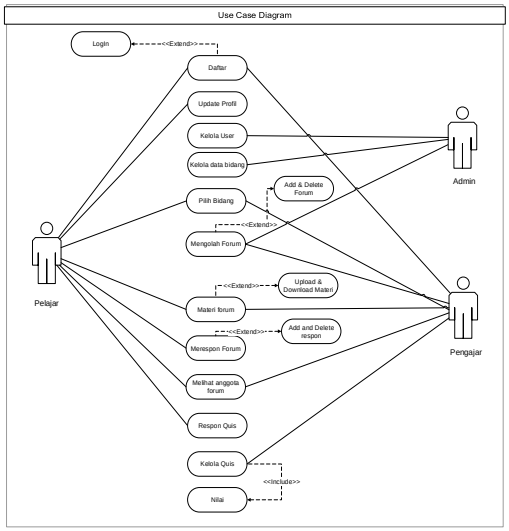

Figure 9. Use Case Diagram Interactive Learning

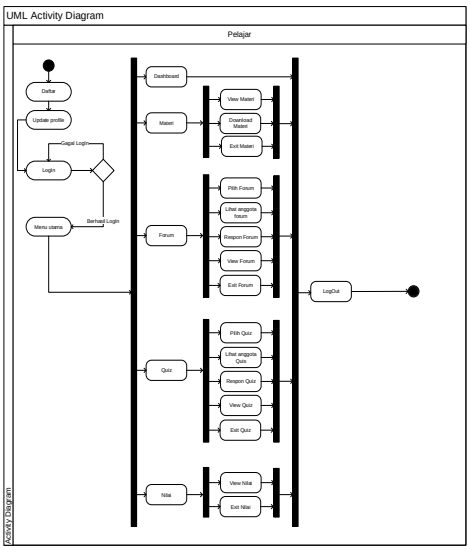

Figure 10. Activity Diagram Interctive Learing

In Figure 9 the first process is login, each user must log in first, this part is the user is the Administrator, school students and parents. In the use case diagram there are several options, namely if a new user has to register a new one, there are several menus, namely lists, profile updates, managing users, managing item data, selecting fields, managing forums, forum material, responding to forums, viewing group members, giving or see the results of the exam, and finally know the value that has been tested. Each menu has and is owned by several operators respectively. For example, students cannot arrange questions and choose exam questions, while in material students can see and download, but students cannot upload practice questions. So with the teacher that the teacher can prepare and submit questions. Viewing and assessing questions as an interactive learning method. The administrator will monitor all activities in this web learning activity.

Figure 10. Discussing the activity diagram on the interactive learning web created. At the beginning of the login process, if successful it will see the dashboard page, material, forum, training and values. In this case, students can see their respective dashboards and at the point of material can download learning materials. In the forum, section students can see the existing forum so that they can discuss and ask questions, the discussion could be about learning in school. In the quiz exercise section, the thing to do is learning can be seen from the existing quiz and start doing the exercises. Finally, in the value section students can see parents can also access the values and values.

In figure 11 to 14 is the result of interactive learning system design that has been made and applied to high schools.

Figure 11. Main Display of Moodle.

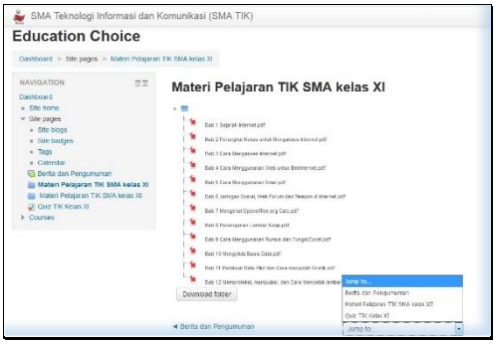

Figure 12. Teaching Material Display.

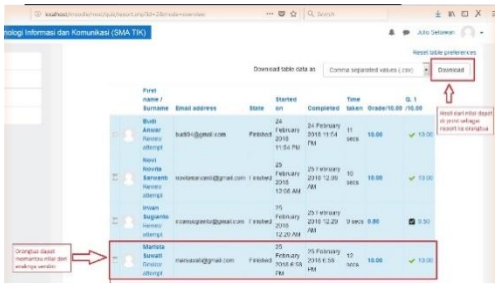

Figure 13. User Account.

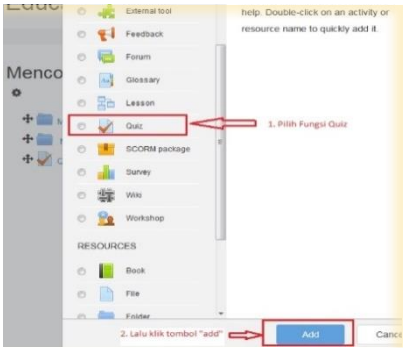

Figure 14. Create Quiz Display.

Conclusions

From figures 3 to 8 which are the results of the review, it can be concluded that the importance of learning with the concept of an interactive eLearning system. Moodle website can connect teachers, students and parents. Adding a module or parent role facility in an interactive web is a new thing from this study, the current condition of almost all online learning web sites, the role of parents in activating children's learning is only on monitoring from home, while the conditions under which students do school actions or violations then parents know. Furthermore, in this study parents are the assessment points of the three learning aspects namely teachers, students and parents. Seeing that school readiness is now generally ready and has been able to implement an interactive learning system using the moodle web that has been created, the application of this study is common in schools and continues to improve the quality of education.

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